

ICT impact assessment by linking data

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During 2006-2008 13 EU statistics offices, including the Czech Republic, and academic contributors, carried out a research project designed to meet two key objectives of the European Statistical System to develop new indicators on the economic impact of ICT in business without increasing the burden of surveys on respondent firms, and

to extend consistent analysis of ICT impacts to new countries.

The technique developed is data linking across surveys, including (for all 13 countries) the common EU ICT use survey for business, the Structural Business Survey and business register and, for some countries, surveys in skills, international sourcing, ICT investment and innovation.

Starting from the evidence on ICT and productivity developed in earlier single country studies using firm level data linking, the study agreed a core range of metrics from common surveys which all countries could analyse, and a set of 'lead country' analyses in groups of countries where additional data is available. Each line of analysis is based on the principle that the important indicators to develop are those related to the productivity and growth impacts of ICT.

The study began by focusing on firm level analysis, and went on to develop an industry based analysis method, using a comprehensive set of metadata, which can be used to produce ICT, and other, indicators on a strictly comparable basis across industries and countries. This allows technology use data to be combined with other, aggregate, economic data in productivity and growth analysis, including EU KLEMS.

The results show additional productivity effects associated with ICT through competitive substitution over and above 'within firm' effects. Firm level analysis in the study also suggests that much of the productivity impact of ICT is associated with its effect as a facilitator of wider innovation.

The paper goes on to develop the results achieved during the study, including comparison with recent work in the US, and macroeconomic measurement work on ICT and complementary investment in a number of OECD countries. It concludes by outlining objectives for the next round of research in this area.